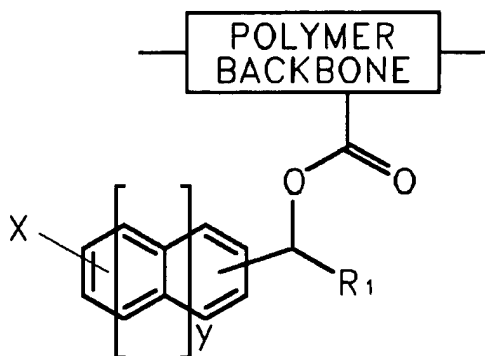


Listing of the Claims:

Claim 1 (Currently amended): A photosensitive polymer having an acid-labile protecting group represented by the formula:



wherein the acid-labile protecting group comprises a fused aromatic ring; R₁ is ~~hydrogen atom or~~ an alkyl group having from 1 2 to 4 carbon atoms; X is ~~hydrogen atom, a~~ halogen, alkyl, or alkoxy; and y is an integer from 1 to 3.

Claim 2 (Original): The photosensitive polymer of Claim 1, wherein the acid-labile protecting group is bound to a polymer to backbone of the photosensitive polymer.

Claim 3 (Original): The photosensitive polymer of Claim 2, wherein the polymer backbone of the photosensitive polymer comprises acrylate backbone, methacrylate backbone and norbornene backbone.

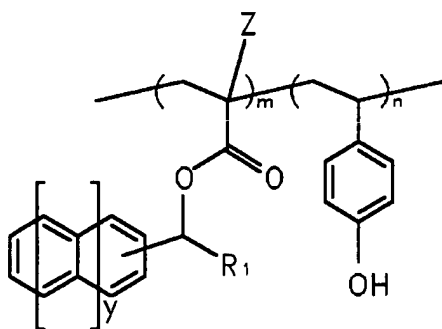
a¹⁰

Claim 4 (Currently amended): The photosensitive polymer of Claim 1, wherein the fused aromatic ring is a ~~linear~~ linear ring or branched ring with y greater than or equal to 2.

Claim 5 (Currently amended): The photosensitive polymer of Claim 1, wherein the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 200,000.

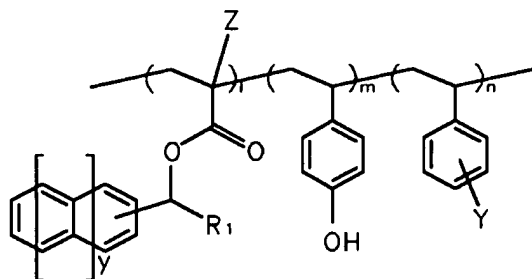
Claim 6 (Currently amended) The photosensitive polymer of Claim 4, wherein the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 10,000 to about 50,000.

Claim 7 (Currently amended) ~~The photosensitive polymer of Claim 1, wherein the photosensitive polymer has the formula:~~ A photosensitive polymer having an acid-labile protecting group represented by the following formula:



wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; Z is hydrogen atom or methyl group; the ratio of $m/(m + n)$ ranges from 0.05 to 0.4; the ratio $n/(m + n)$ ranges from 0.6 to 0.95; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

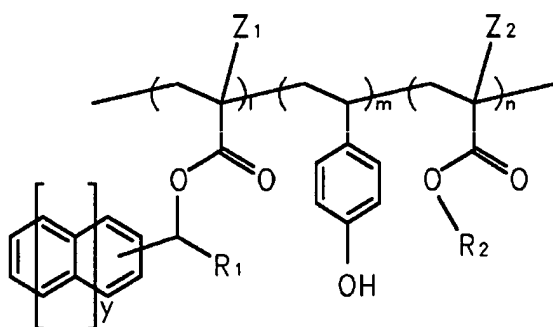
Claim 8 (Currently amended): The photosensitive polymer of Claim 7, wherein the photosensitive polymer has the formula:



wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; Z is hydrogen atom or methyl group; the ratio of $m/(m + n)$ ranges from 0.05 to 0.4; the ratio $n/(m + n)$ ranges from 0.6 to 0.95; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

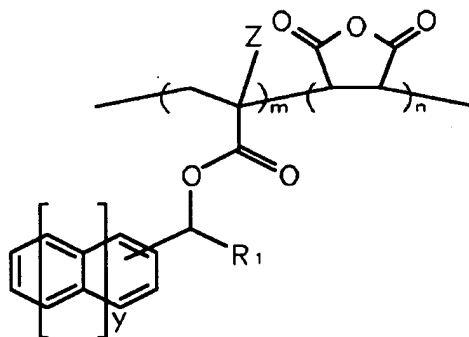
3; Y is hydrogen atom, alkyl, alkoxy, or tert-butoxycarbonyloxyl group; Z is hydrogen atom or methyl; the ratio of $l/(l + m + n)$ ranges from 0.05 to 0.4; the ratio of $m/(l + m + n)$ ranges from 0.3 to 0.85; the ratio of $n/(l + m + n)$ ranges from 0.1 to 0.3; and the photosensitive polymer has a weight an average molecular weight ranging from about 3,000 to about 50,000.

Claim 9 (Currently amended): The photosensitive polymer of Claim 1, wherein the photosensitive polymer has the formula:



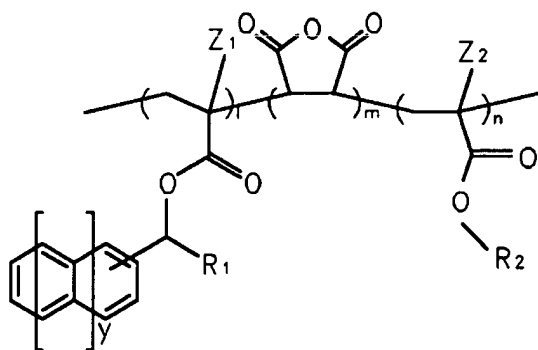
wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; R_2 is hydrogen atom, methyl, ethyl, or tert-butyl group; Z_1 is hydrogen atom or methyl group, Z_2 is hydrogen atom or methyl group; the ratio of $l/(l + m + n)$ ranges from 0.05 to 0.4; the ratio of $m/(l + m + n)$ ranges from 0.6 to 0.95; and the ratio of $n/(l + m + n)$ ranges from 0.1 to 0.3; and the photosensitive polymer has a weight an average molecular weight ranging from about 3,000 to 50,000.

Claim 10 (Currently amended): The photosensitive polymer of Claim 1, wherein the photosensitive polymer has the formula:



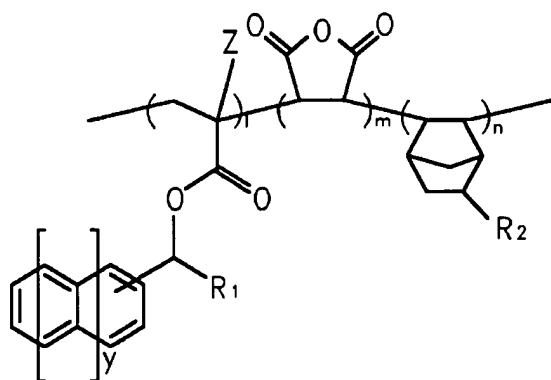
wherein R₁ is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; Z is hydrogen atom or methyl group; the ratio of m/(m + n) ranges from 0.5 to 0.7; and the ratio of n/(m + n) ranges from 0.3 to 0.5; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

Claim 11 (Currently amended): The photosensitive polymer of Claim ~~7~~ 7, wherein the photosensitive polymer has the formula:



wherein R₁ is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; R₂ is hydrogen atom, methyl, ethyl, or tert-butyl group; Z₁ is hydrogen atom or methyl group; Z₂ is hydrogen atom or methyl group; the ratio of l/(l + m + n) ranges from 0.3 to 0.6; the ratio of m/(l + m + n) ranges from 0.3 to 0.5; the ratio of n/(l + m + n) ranges from 0.1 to 0.4; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

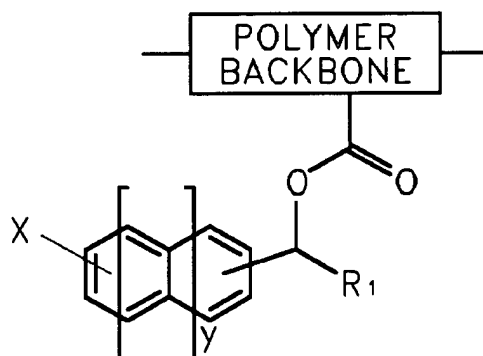
Claim 12 (Currently amended): The photosensitive polymer of Claim 1, wherein the photosensitive polymer has the formula:



wherein R₁ is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; R₂ is hydrogen atom, hydroxyl, carboxyl, or tert-butyl ester group; Z is hydrogen atom or methyl group; the ratio of 1/(1 + m + n) ranges from 0.3 to 0.6; the ratio of m/(1 + m + n) ranges from 0.3 to 0.5; the ratio of n/(1 + m + n) ranges from 0.1 to 0.4; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

Claim 13 (Currently amended): A photoresist composition comprising:

(a) A photosensitive polymer having an acid-labile protecting group represented by the formula:



a10 wherein the acid-labile protecting group comprises a fused aromatic ring; R_1 is ~~hydrogen atom~~ or alkyl group having from 1 to 4 carbon atoms; X is ~~hydrogen atom~~, a halogen, alkyl, or alkoxy; and y is an integer from 1 to 3; and

(b) a photoacid generator (PAG).

Claim 14 (Original): The photoresist composition of Claim 13, wherein the acid-labile protecting group is bound to the backbone of the photosensitive polymer.

a11 Claim 15 (Currently amended): The photoresist composition of Claim 13, wherein the fused aromatic ring is a ~~linear~~ linear ring or branched ring with y greater than or equal to 2.

Claim 16 (Original): The photoresist composition of Claim 13, wherein the photoresist composition comprises from about 0.5 to about 10 weight percent of the photoacid generator based on the weight of the photosensitive polymer.

Claim 17 (Original): The photoresist composition of Claim 13, wherein the photoacid generator is selected from the group consisting of triarylsulfonium salt, diaryliodonium salt, sulfonate, and a mixtures thereof.

Claim 18 (Original): The photoresist composition of Claim 13, further comprising an organic base.

Claim 19 (Original): The photoresist composition of Claim 18, wherein the organic base comprises from about 0.5 to about 50 weight percent based on the weight of the photoacid generator.

Claim 20 (Original): The photoresist composition of Claim 19, wherein the organic based is selected from the tertiary amine group consisting of triethylamine, triethanolamine, triisobutylamine, triisooctylamine, triisodecylamine, and mixtures thereof.

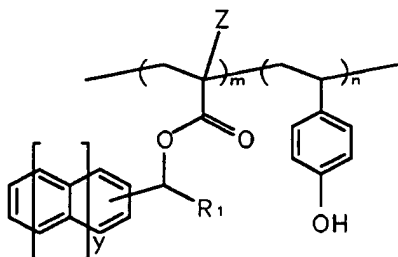
Q12 Claim 21 (Currently amended): The ~~photosensitive~~ photoresist composition of Claim ~~12~~ 13, wherein the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 200,000.

Claim 22 (Currently amended): ~~The photosensitive composition of Claim 12~~ A photoresist composition comprising:

a photoacid generator; and

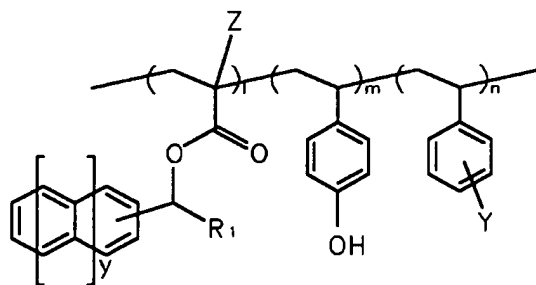
a photosensitive polymer having a [^]acid-labile protecting group, wherein the [↑]photosensitive polymer is selected from the group consisting of:

(a) a photosensitive polymer having the formula:



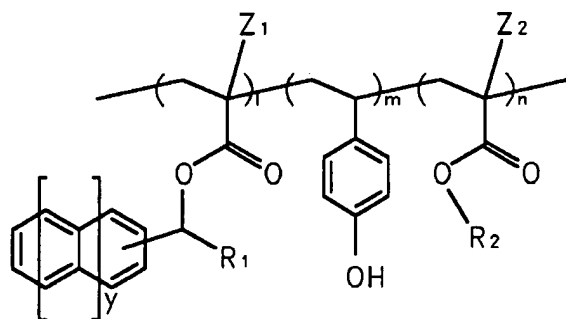
wherein R₁ is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; Z is hydrogen ~~atom~~ or methyl group; the ratio of m/(m + n) ranges from 0.05 to 0.4; the ratio of n/(m + n) ranges from 0.6 to 0.95; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000.

(b) a photosensitive polymer having the formula:



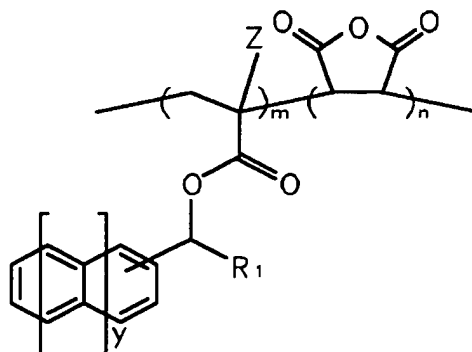
wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; Y is hydrogen atom, alkyl, alkoxy, or tert-butoxycarbonyloxyl group; y is an integer from 1 to 3; Z is hydrogen atom or methyl; the ratio of $l/(l + m + n)$ ranges from 0.05 to 0.4; the ratio of $m/(l + m + n)$ ranges from 0.3 to 0.85; the ratio of $n/(l + m + n)$ ranges from 0.1 to 0.3; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000;

(c) a photosensitive polymer having the formula:



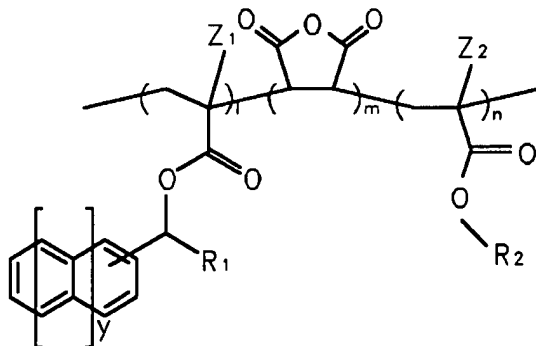
wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; R_2 is hydrogen atom, methyl, ethyl, or tert-butyl group; y is an integer from 1 to 3; Z_1 is hydrogen atom or methyl group; Z_2 is hydrogen atom or methyl group; the ratio of $l/(l + m + n)$ ranges from 0.05 to 0.4; the ratio of $m/(l + m + n)$ ranges from 0.3 to 0.85; and the ratio of $n/(l + m + n)$ ranges from 0.1 to 0.3; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000;

(d) a photosensitive polymer having the formula:



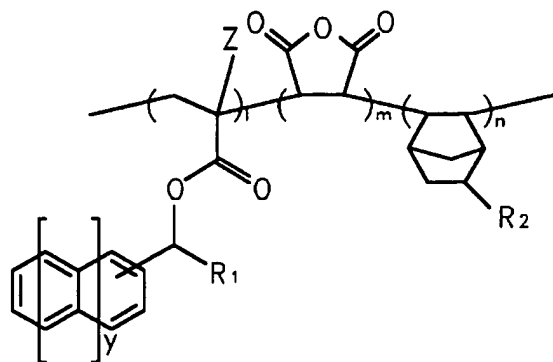
wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; y is an integer from 1 to 3; Z is hydrogen atom or methyl group; the ratio of $m/(1 + m + n)$ ranges from 0.5 to 0.7; and the ratio of $n/(1 + m + n)$ ranges from 0.3 to 0.5; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000;

(e) a photosensitive polymer having the formula:



wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; R_2 is hydrogen atom, methyl, ethyl, or tert-butyl group; y is an integer from 1 to 3; Z_1 is hydrogen atom or methyl group; Z_2 is hydrogen atom or methyl group; the ratio of $1/(1 + m + n)$ ranges from 0.3 to 0.6; the ratio of $m/(1 + m + n)$ ranges from 0.3 to 0.5; and the ratio of $n/(1 + m + n)$ ranges from 0.1 to 0.4; and the photosensitive polymer has ~~a weight~~ an average molecular weight ranging from about 3,000 to about 50,000;

(f) a photosensitive polymer having the formula:



wherein R_1 is hydrogen or alkyl group having from 1 to 4 carbon atoms; R_2 is hydrogen atom, hydroxyl, carboxyl, or tert-butyl ester group; y is an integer from 1 to 3; Z is hydrogen atom or methyl group; the ratio of $1/(1 + m + n)$ ranges from 0.3 to 0.6; the ratio of $m/(1 + m + n)$ ranges from 0.3 to 0.5; the ratio of $n/(1 + m + n)$ ranges from 0.1 to 0.4; and the photosensitive polymer has a weight an average molecular weight ranging from about 3,000 to about 50,000.

Claim 23 (Currently amended): The photosensitive photoresist composition of Claim 21, further comprising a photoacid generator, wherein the photoacid generator is selected from the group consisting of triarylsulfonium salt, diaryliodonium salt, sulfonate, and mixtures thereof.

Claim 24 (Currently amended): The photosensitive photoresist composition of Claim 22, further comprising an organic base, wherein the organic base comprises from about 0.5 to about 50 weight percent based on the weight of the photoacid generator.